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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,750	03/22/2004	Todd Peterson	IVGN 403.1 Div (L)	2424
65482 7590 12/08/2010 LIFE TECHNOLOGIES CORPORATION C/O INTELLEVATE P.O. BOX 52050 MINNEAPOLIS, MN 55402				
EXAMINER PRITCHETT, JOSHUA L				
ART UNIT		PAPER NUMBER		
2872				
MAIL DATE		DELIVERY MODE		
12/08/2010		PAPER		

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TODD PETERSON, LAURENCE WARDEN,
JUAN YGUERABIDE, and EVANGELINA YGUERABIDE

Appeal 2009-005696
Application 10/806,750¹
Technology Center 2800

Before KENNETH W. HAIRSTON, JOHN C. MARTIN, and MARC S.
HOFF, *Administrative Patent Judges*.

HOFF, *Administrative Patent Judge*.

DECISION ON APPEAL²

¹ The real party in interest is Invitrogen Corporation.

² The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

STATEMENT OF CASE

Appellants appeal under 35 U.S.C. § 134(a) from a Final Rejection of claims 1-8, 14-16, 18, 19, and 32-35.³ We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

Appellants' invention concerns a method for determination of a dynamic property (such as flow rate, particle distribution, uniformity of drying, flow pattern, or fluid mixing) of a fluid volume. The dynamic property is determined by determining the distribution or location or both of at least one resonance light scattering (RLS) particle using detection of light scattered from the particle or particles in at least a portion of said fluid volume (Spec. 2).

Claim 1 is exemplary of the claims on appeal:

1. A method for determination of a dynamic property of a fluid volume in a small volume device selected from the group consisting of an array chip, array plate, and array slide, comprising determining the distribution or location or both of at least one resonance light scattering particle in said fluid volume by detecting light scattered from said at least one resonance light scattering particle, wherein said at least one resonance light scattering particle is not specifically bound to another entity.

The Examiner relies upon the following prior art in rejecting the claims on appeal:

Tateiwa	US 5,444,529	Aug. 22, 1995
Schultz	US 6,180,415 B1	Jan. 30, 2001

³ Claims 9-13, 17, and 20-31 have been cancelled.

Claims 1-5, 7, 8, 18, 19, and 32-35 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Schultz.

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Schultz in view of Tateiwa.

Claims 14-16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Schultz.

Throughout this decision, we make reference to the Appeal Brief ("App. Br.," filed June 26, 2008), the Reply Brief ("Reply Br.," filed November 14, 2008) and the Examiner's Answer ("Ans.," mailed September 18, 2008) for their respective details.

ISSUE

Appellants argue, *inter alia*, that Schultz fails to teach a method for determination of a dynamic property of a fluid volume, comprising determining the distribution or location or both of at least one resonance light scattering particle in said fluid volume, wherein said at least one resonance light scattering particle is *not specifically bound to another entity*, as claims 1 and 32 require (App. Br. 10-11, emphasis added).

Appellants' contentions present us with the following issue:

Does Schultz teach the determination of a dynamic property of a fluid volume using resonance light scattering particles that are not specifically bound to another entity?

FINDINGS OF FACT

The following Findings of Fact (FF) are shown by a preponderance of the evidence.

Schultz

1. Schultz defines a “field having a plurality of PREs distributed therein” is a target or region of a target having PREs attached or otherwise distributed therein, such that the PREs in the field, when illuminated with an optical light source, exhibit plasmon resonance (col. 8, ll. 37-42).

2. Schultz teaches, as one method for preparing a target having PREs distributed therein, that the “target may be washed to remove unbound or non-specifically bound PREs” (col. 14, ll. 64-65). In one embodiment, “[a]fter PRP binding to the solid phase, immobilized surface, the solid phase is washed to remove non-bound PRPs before illuminating the target and detecting a plasmon resonance spectral characteristic of the target complex(es)” (col. 35, ll. 5-8).

PRINCIPLES OF LAW

“A rejection for anticipation under section 102 requires that each and every limitation of the claimed invention be disclosed in a single prior art reference.” *See In re Buszard*, 504 F.3d 1364, 1366 (Fed. Cir. 2007) (quoting *In re Paulsen*, 30 F.3d 1475, 1478-79 (Fed. Cir. 1994)).

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 405 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3)

the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). *See also KSR*, 550 U.S. at 407 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”)

ANALYSIS

CLAIMS 1-5, 7, 8, 18, 19, AND 32-35

We are persuaded by Appellants’ argument, summarized *supra*, that Schultz does not teach resonance light scattering particles that are not specifically bound to another entity. We agree with Appellants that “[i]n every specific embodiment in Schultz, the PREs [plasmon resonance entities] are bound to some entity, target or analyte. Nowhere does Schultz disclose measuring fluid dynamics (or anything else) using particles that are unbound to another entity” (App. Br. 10-11).

The Examiner finds that Schultz’s disclosure of “a target or portion or region of a target having PREs attached or otherwise distributed therein” (FF 1) meets the claim limitation that the resonance light scattering particles are not specifically bound to another entity (Ans. 4). We disagree with the Examiner for three reasons. First, the passage in question is within Schultz’s definition of the phrase “field having a plurality of PREs distributed therein” and is not specifically a discussion of PRE binding. Second, the Specification in Schultz is replete with specific embodiments of the ways in which PREs are bound to other entities, and contains no disclosure directed

to determining dynamic properties using unbound PREs.⁴ Schultz further teaches preparing a target by washing to *remove* unbound or non-specifically bound PREs before interrogating the field containing the target (and PREs) (FF 2). Third, even the Examiner admits that this passage “may not be sufficient to teach a definite manner of unbound distribution,” albeit while arguing that it “does provide a teaching that unbound distribution is possible” (Ans. 9). The mere *possibility* of unbound distribution, however, is not sufficient to anticipate a claim that explicitly requires that the at least one resonance light scattering particle is not specifically bound to another entity.

Appellant has thus established that the Examiner erred in rejecting claims 1-5, 7, 8, 18, 19, and 32-35 under § 102 as being anticipated by Schultz. Accordingly, we will not sustain the rejection.

CLAIM 6

As noted *supra*, we do not sustain the § 102 rejection of claim 1, from which claim 6 depends. We have reviewed Tateiwa and find that it does not remedy the noted deficiency of Schultz.

⁴ See, e.g., col. 1, ll. 20-23 (“The target analyte may be detected by reacting the analyte with a detectable reporter that (i) can bind specifically to the analyte and (ii) is detectable with suitable detecting tools”); col. 5, l. 22 (the particles have localized at their surfaces “(iv) a blocking reagent to prevent non-specific binding”); col. 5, ll. 33-36; col. 5, ll. 60-63; col. 6, ll. 35-39 (“The embodiment may be practiced, for example, by reacting the target with first and second populations of PREs having surface-localized first and second ligands, respectively, for binding to the first and second ligand binding sites, respectively”); col. 6, l. 64; col. 24, ll. 4-7; col. 31, ll. 25-30; col. 34, ll. 61-64; col. 39, ll. 20-23; col. 43, ll. 7-9; col. 47, ll. 20-25; col. 50, ll. 16-17.

Accordingly, we find that the Examiner has not set forth the prima facie obviousness of claim 6, and we will not sustain the § 103 rejection of claim 6.

CLAIMS 14-16

As noted *supra*, we do not sustain the § 102 rejection of claim 1, from which claims 14-16 depend. Because Schultz lacks a teaching of resonance light scattering particles not specifically bound to another entity, we find that the Examiner has not set forth the prima facie obviousness of claims 14-16. As a result, we will not sustain the § 103 rejection of claims 14-16.

CONCLUSION

Schultz does not teach the determination of a dynamic property of a fluid volume using resonance light scattering particles that are not specifically bound to another entity.

ORDER

The Examiner's rejection of claims 1-8, 14-16, 18, 19, and 32-35 is reversed.

Appeal 2009-005696
Application 10/806,750

REVERSED

ELD
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